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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,337	09/11/2003	Hitoshi Haematsu	020721A	7094
23850	7590	10/15/2004	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			PERKINS, PAMELA E	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/659,337

Applicant(s)

HAEMATSU, HITOSHI

Examiner

Pamela E Perkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This office action is in response to the filing of the request for reconsideration on 23 August 2004. Claims 1-3 are pending.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugaya et al. (6,538,210) in view of Takeuchi et al. (6,005,474).

Sugaya et al. discloses a manufacturing method of a semiconductor device where a plurality electrodes (211) are formed front face of a semiconductor chip; covering the front face of the semiconductor chip with a resin insulating film (200); covering an upper surface the resin insulating film (200) with a metal protective film (206); exposing one of the plurality of electrodes (211) from the upper surface the resin insulating film (200) to be connected to the metal protective film (206); and providing an electrical connecting portion (208) of at least any the plurality of electrodes (211) at a reverse face of the semiconductor chip (col. 13, line 14 thru col. 14, line 64). Sugaya et al. do not disclose the metal protective film covering the side surfaces of the resin insulating film.

Takeuchi et al. discloses a manufacturing method of a semiconductor device where a plurality electrodes (9) are formed front face of a semiconductor chip (1);

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covering the front face of the semiconductor chip (1) with a resin insulating film (13); covering all of an upper surface and side surfaces the resin insulating film (13) with a metal protective film (15) (Fig. 2, col. 6, lines 17-67); exposing one of the plurality of electrodes (9) from the upper surface the resin insulating film (13) to be connected to the metal protective film (15); and providing an electrical connecting portion (19a) of at least any the plurality of electrodes (9) at a reverse face of the semiconductor chip (1) (col. 7, lines 1-23). Takeuchi et al. further disclose forming a metal layer (19c) on a peripheral isolation region the front face the semiconductor chip (1) when covering the side surface of the resin insulating film (13) with the metal protective film (15) (col. 7, lines 11-60).

Since Sugaya et al. and Takeuchi et al. are both from the same field of endeavor, a manufacturing method of a semiconductor device, the purpose disclosed by Takeuchi et al. would have been recognized in the pertinent art of Sugaya et al. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify Sugaya et al. by the metal protective film covering the side surfaces of the resin insulating film as taught by Takeuchi et al. minimize variation is resistance of the electrodes (col. 2, lines 12-47).

### ***Response to Arguments***

Applicant's arguments, see the paper filed 23 August 2004, with respect to the rejection(s) of claim(s) 1-3 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

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consideration, a new ground(s) of rejection is made in view of Takeuchi et al. (6,005,474).

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E Perkins whose telephone number is (571) 272-1840. The examiner can normally be reached on Monday thru Friday, 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP

  
AMIR ZARABIAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800